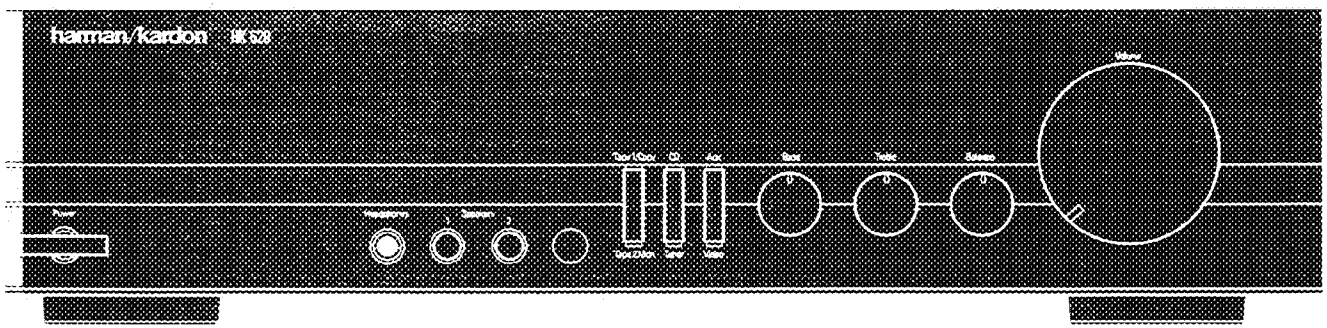
HK620



harman/kardon

Integrated Amplifier

OWNER'S MANUAL

HK620 INTEGRATED AMPLIFIER

Congratulations on your choice of the Harman Kardon Integrated Amplifier.

In order to obtain the best performance from this integrated amplifier, please be sure to read this owner's manual and use your integrated amplifier only in accordance with its instructions.

The special features of this unit include:

HCC (High Instantaneous Current Capability)

The amplifier sections react rapidly to musical transients, providing the instantaneous current necessary to precisely drive and control nearly any loudspeaker system.

Ultrawide Bandwidth

The bandwidth of this unit is exceptionally wide and is independent of negative feedback. This improves transient accuracy and phase linearity.

Low Negative Feedback

This unit has been designed to have low distortion and wide bandwidth without high negative feedback. This further improves its dynamic accuracy.

Discrete Component Circuitry

In order to achieve the above goals, all discrete electronic circuitry has been employed. No available integrated circuits could provide this high level of performance.

Sophisticated Electronic Protection Circuitry

Harman Kardon's unique protection circuitry guards the amplifier from short-circuited or damaged speakers and wires, without impairing sound quality by the use of current limiting or output relays.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

GENERAL INSTRUCTIONS

Always Use at 120V AC*

This unit is designed for operation with 120V AC. Use only domestic AC outlets. Never connect the unit to an outlet supplying a higher voltage. This may create a fire hazard.

Handle the Power Cord Gently

Do not disconnect the plug from the AC outlet by pulling the cord; always pull the plug itself. Pulling the cord may damage it. If you do not intend to use your unit for any considerable length of time, disconnect the plug from the AC outlet. Do not place furniture or other heavy objects on the cord, and try to avoid dropping heavy objects upon it. Also do not make a knot in the power cord. Not only may the cord be damaged, it can also cause a short circuit with a consequent fire hazard.

*NOTE: Units sold in countries with 230 Volts AC are designed for 230 Volts.

Place of Installation

Place the unit on a firm and level surface. Avoid installing your unit under the following conditions:

- Moist or humid places.
- Places exposed to direct sunlight or close to heating equipment.
- Extremely cold locations.
- Places subject to excessive vibration or dust.
- Poorly ventilated places.

Do not obstruct the ventilation slots on the top surface of the unit by placing objects over them.
Otherwise, the temperature inside the unit may rise, possibly affecting its long-term reliability.

In Case of Moving the Unit

Before moving the unit, be sure to pull out the power cord from the AC outlet and disconnect the interconnection cords with other units.

Do Not Open the Cabinet

To prevent shock hazard, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee against performance degradation resulting from any modification. If water, a hairpin or wire accidentally enters the unit, immediately extract the plug from the AC outlet to prevent shock and consult an authorized Harman Kardon service station. If you use the unit under this condition, it may cause a fire or shock hazard.

Cleaning

If the unit gets dirty, wipe it with a soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water and then with a dry cloth.
Never use benzene, thinner, alcohol or other volatile agent, and avoid spraying an insecticide near the unit.

Abnormal Smells

If you detect an abnormal smell or smoke, immediately turn the amplifier off and unplug the power cord. Contact your dealer or nearest Harman Kardon service center.

Packaging

Save all packing material. It is essential for shipping should you move, or in the event the unit ever needs repair.

Warranty and After-sale Service (USA Customers Only)

- Please find the warranty card enclosed with this unit when you purchased it.
- After reading the contents of the warranty card, keep it in a safe place.
- The warranty term is two years after date of purchase.
- If this unit does not appear to operate normally, read this manual following the instructions carefully and operate the unit again.
- If a problem persists even though you have done according to the manual, consult your authorized Harman Kardon service station.
- Repair within the warranty term is made according to the conditions specified in the warranty card.

CONNECTIONS

Connecting Other Components

1. Make sure your amplifier and other components are turned off.
2. Connect each component's Output jacks to the corresponding Input jacks on the back of your amplifier. Use the white, black or gray plugs to connect Left channel jacks; use the red plugs for Right jacks.
3. To use a 3-head tape deck that allows monitoring of the actual recording while it is in process, connect it to TAPE 2 jacks.

For Customers with a Turntable:
To connect a turntable, an optional Phono board must be installed. This board can be set to MM or MC. With the Phono board installed, however, you cannot use the AUX input. If you want to have the Phono board installed, consult your authorized Harman Kardon service center.

Wired Remote Control

To control your amplifier with an external infrared remote sensor, connect the wire from the remote sensor to the REMOTE IN jack on the back panel. Or, if another stereo component has a built-in infrared remote sensor and a Remote Output jack, it may be possible to connect this jack to the REMOTE IN jack of your amplifier. All Harman Kardon products with "Remote In" and "Remote Out" jacks are compatible with one another, except for the Citation 22, 24 and 25. Other manufacturers' remote sensors and components may not be compatible, but it will not hurt to experiment.
A second wire may be used to connect your amplifier's REMOTE OUT jack to the Remote Input of another stereo component. Continue this process to include additional components (if compatible).

Connecting Speakers

1. For best performance, use high quality speaker cables. However, ordinary copper wire can be used if the gauge meets the following requirements:

Wire Length	Gauge
Up to 2.5 meter	18 AWG
Up to 4 meter	16 AWG
Up to 6 meter	14 AWG
Over 6 meter	10-12 AWG custom speaker cable

2. Avoid coiling excess wire with or near line level hook-up cords.

IMPORTANT: When connecting two pairs of speakers, determine the impedance of each pair by looking on the back of the speakers, or in your owner's manual, or by contacting your dealer or manufacturer. Then refer to the following chart to see if both sets may be played simultaneously.

If impedance of the two pairs is:	Can both pairs be played simultaneously?
8Ω/8Ω	YES
8Ω/6Ω	NO
8Ω/4Ω	NO
6Ω/6Ω	NO
6Ω/4Ω	NO
4Ω/4Ω	NO

WARNING: Do not play both sets of speakers simultaneously except as recommended above. Amplifier may overheat.

AC Power

Plug the cord into a polarized wall socket.

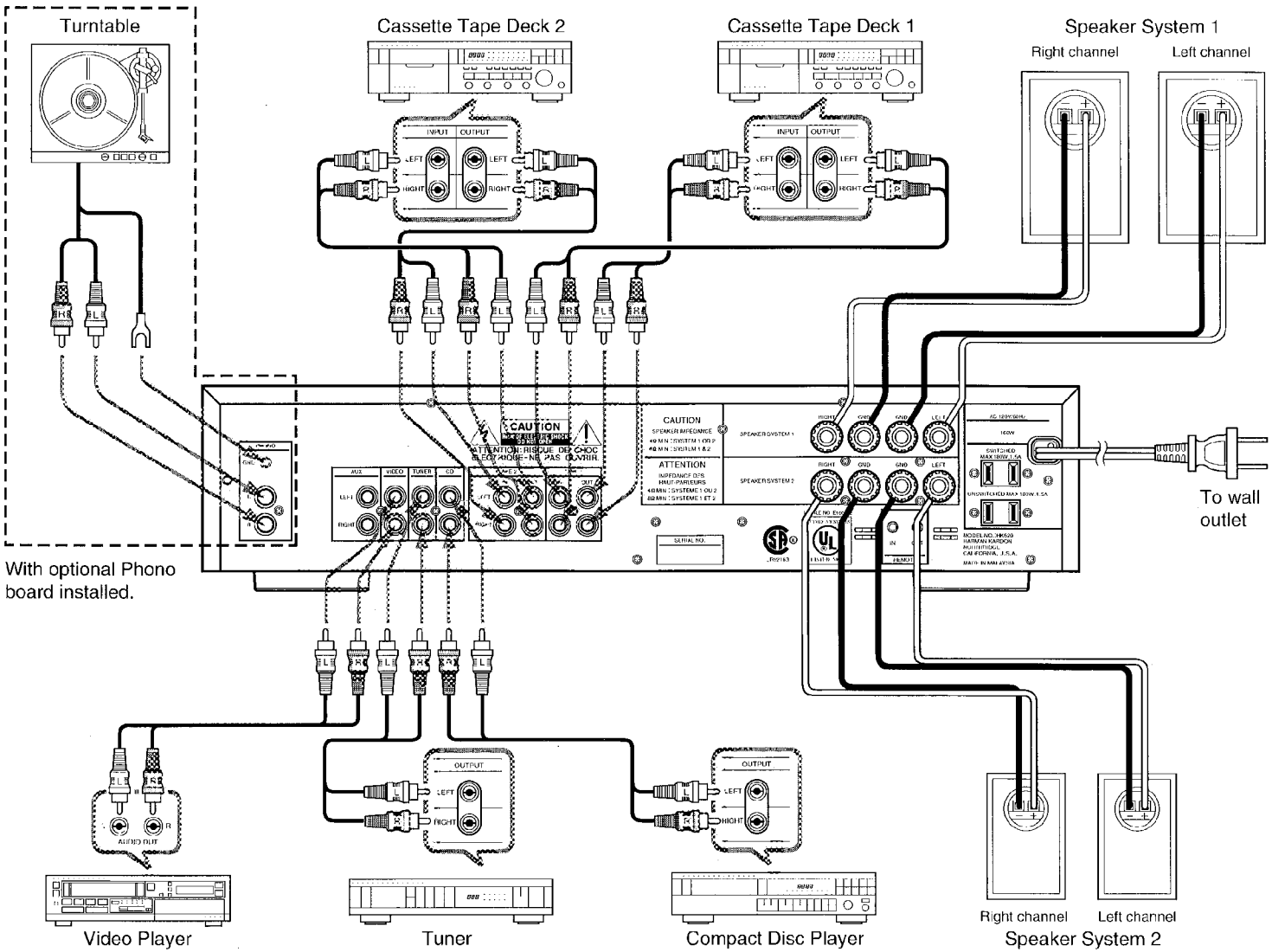
NOTE: The power does not shut off completely by just turning the power off. So power cord should be removed from AC outlet when not in use for a prolonged time.

AC Convenience Receptacles

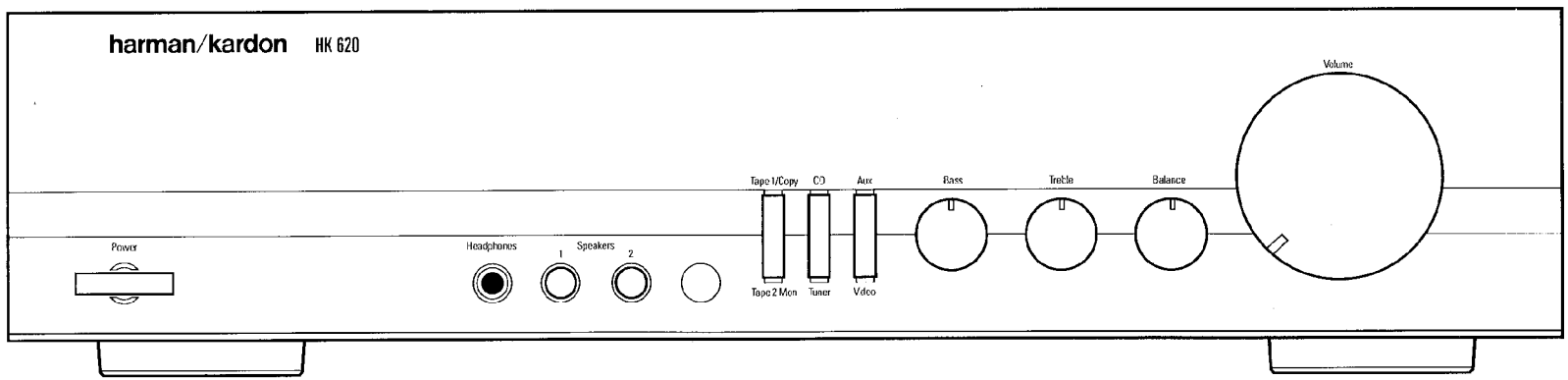
(120 Volt units only)
Other stereo components may be plugged into the back of your amplifier.

1. If a component is plugged into the SWITCHED receptacle, power will be supplied to that component only when your amplifier is turned on.
2. If a component is plugged into the UNSWITCHED receptacle, power will be supplied whether your amplifier is on or off.

NOTE: Do not connect any component that requires more than 180 watts of power. Check the owner's manual or the back of the component to find its power requirement.


Turntable
Cassette Tape Deck 2
Cassette Tape Deck 1
Speaker System 1
Right channel
Left channel
With optional Phono board installed.
To wall outlet
Video Player
Tuner
Compact Disc Player
Right channel
Left channel
Speaker System 2

CONTROLS and FUNCTIONS



Power Switch
Press to turn the unit on and off.

Headphone Jack
Plug in headphones if desired. (With both Speakers 1 and 2 switches in Off position, output is supplied only to headphones.)

Speakers Switches
Push in to select either of two sets of speakers, or both, or neither (headphone output only).

Function Selector Buttons
Select desired input source by pressing the corresponding button.

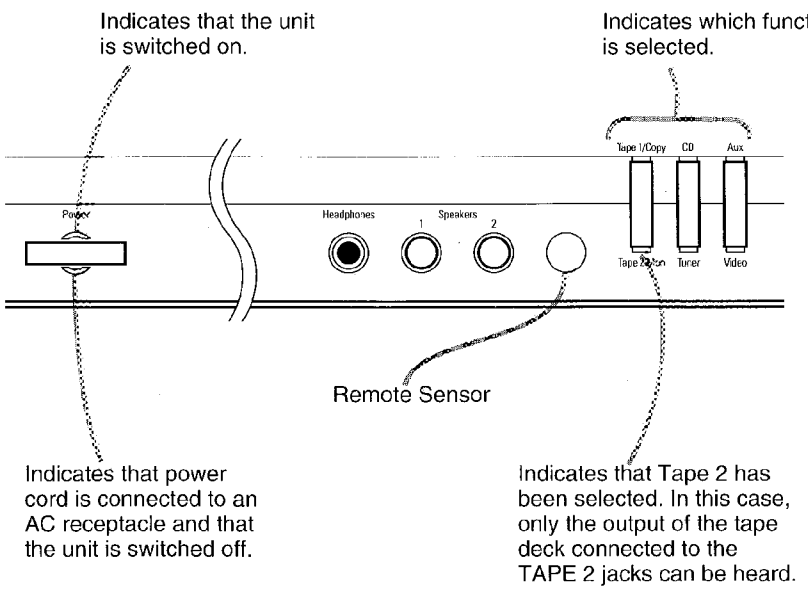
Bass Control
Turn to increase or decrease the proportion of low frequency sound.

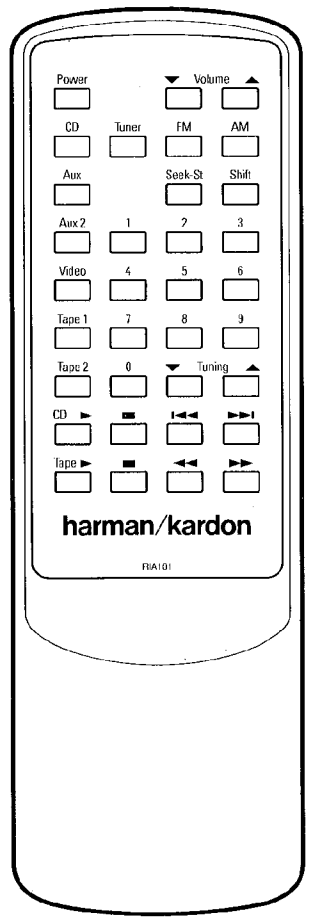
Treble Control
Turn to increase or decrease the proportion of high frequency sound.

Balance Control
Turn to adjust relative output level of left and right speakers.

Volume Control
Turn to raise or lower output volume.

INDICATORS and REMOTE CONTROL


Indicates that the unit is switched on.
Indicates which function is selected.
Power
Headphones
Speakers
1
2
Tape 1/Copy
CD
Aux
Tape 2/Aux
Tuner
Video
Remote Sensor
Indicates that power cord is connected to an AC receptacle and that the unit is switched off.
Indicates that Tape 2 has been selected. In this case, only the output of the tape deck connected to the TAPE 2 jacks can be heard.



Independent Remote Control

The keys on the remote control unit function the same as the corresponding buttons on the amplifier itself.
The remote control unit also includes many keys that allow for easy control of other Harman Kardon cassette tape deck, CD player and tuner.
Please refer to the owner's manual for each unit for operating instructions.
Some of these units must be connected to the amplifier's remote control output jacks so that the system remote control can operate them.

Operating Conditions

The control unit operates effectively within a distance of 7 meters and an angle of 30° from the amplifier. Using the control near fluorescent lights may shorten this range, as will any dust or dirt that accumulates on the front of the remote control, or the remote sensor area of the amplifier. Also avoid blocking the line of sight between amplifier and remote.

The control unit is powered by two AA batteries, included with your amplifier. When you replace weak batteries, replace both at the same time. When the remote is to be unused for an extended period, remove the batteries to prevent damage from corrosion.

OPERATING INSTRUCTIONS

Listening to your CD player, tape deck, tuner or other component sound source

1. Turn Volume control to minimum level and press the Power switch to turn on the amplifier.
2. Set the Speakers switches to play speakers 1, 2, both or neither (for headphone use).
3. Press the Function selector button corresponding to the component you wish to hear.
4. Begin playing the desired components.
5. Adjust the Volume control to the desired level.
6. Adjust Bass, Treble and Balance controls as desired.
7. To turn off the Tape 1 selection, press either Video, Tuner, CD or Aux button. To turn off the Tape 2, press Tape 2 again.

NOTE: If you have the optional Phono board installed, press the AUX button to listen to the turntable.

Making a Recording

When you select Video, Tuner, CD or Aux as your sound source, recordings may be made on tape deck 1 or 2, or both simultaneously. When making recordings on tape decks 1 and 2 simultaneously, you may listen directly to the source, or you may monitor tape deck 2. DO NOT monitor tape deck 1 during this procedure. Pressing Tape 1 will switch off the source.
If you wish to copy a tape, place it in deck 1, and press the Tape 1 button on your amplifier. You may then record the tape using tape deck 2.

NOTE 1: To turn off the Tape 1 selection, press either Video, Tuner, CD or Aux. To turn off the Tape 2, press Tape 2 again.

NOTE 2: To use a 3-head tape deck that allows monitoring of the actual recording while it is in process, you must connect it to TAPE 2 jacks. Pressing Tape 1 will switch off the source.

NOTE 3: The record output signal is carried directly from the program source without being influenced by the Volume, Bass, Treble or Balance control.

TROUBLESHOOTING

This unit is designed for trouble-free operation; most problems users encounter are due to operating errors. So if you have a problem, first check this list for a possible solution. If the problem persists, consult your authorized Harman Kardon service center.

If the problem is:	**Make sure that:**
No lights illuminate when power cord is plugged into AC outlet.	■ The unit is plugged into a live outlet.
No sound is heard.	■ Press the Speakers switches corresponding to the desired speakers. ■ Correct function button has been pressed. ■ Volume is turned up. ■ Speaker wires are connected properly. ■ Hook-up wires to source component are connected properly.
Sound is not heard from the speaker system on one side. When listening to stereo sound, the left and right sounds are reversed.	■ The speaker wires and connection wires are connected correctly. ■ The balance control knob is set to the center. ■ The speaker wires are connected correctly. ■ The wires between components are connected correctly.
Intermittent or continuous buzzing or hissing.	■ The unit is away from fluorescent lights, TVs, motors and other electrical appliances.
Cannot monitor a recording using Tape 1.	■ This is not possible. Use Tape 2.
The remote control and front panel controls don't appear to work.	■ Disconnect the AC line cord from the wall socket, wait 5 minutes and then re-connect it.
Phono sound is too faint, has hum, ringing, or "howl."	■ Ground wire from turntable has been connected to ground terminal on amplifier. ■ Cable from turntable is away from power cords and speaker cables. ■ Turntable is away from speakers. ■ Turntable is on stable surface. Note: The optional phono board is required to play a turntable.

SPECIFICATIONS

Continuous Average Power Per Channel (FTC) 20Hz - 20kHz, Both Channels Driven	8 Ohms: 4 Ohms:	40 Watts @<0.09% THD 60 Watts @<0.3% THD
Dynamic Power (IHF, 1kHz tone burst)	8 Ohms: 4 Ohms: 2 Ohms:	70 Watts 100 Watts 135 Watts
High Instantaneous Current Capability (HCC):		±40 Amps
Power Bandwidth @ half-rated output, 8Ω:		<10Hz - 100kHz
Frequency Response @ 1W (+0/–3dB):		0.5Hz - 100kHz
Damping Factor:		120
Signal-to-Noise Ratio (reference rated power output, A-Wtd.)	Tuner/CD: Option Phono (MM): Option Phono (MC):	98dB 80dB 75dB
Input Sensitivity/Impedance	Tuner/CD: Option Phono (MM): Option Phono (MC):	135mV/22kΩ 2.2mV/47kΩ, 125pf 120 μV/56 Ohms
Phono-Overload:	Option Phono (MM): Option Phono (MC):	100mV 5mV
Tone Control Range, Bass @ 50Hz/Treble @ 10kHz:		±10dB/±10dB
Power Supply:		AC120V, 60Hz (or AC230V, 50Hz)
Power Consumption:		160W (180W for 230V version)
Dimensions (Width × Height × Depth):		17-3/8 × 4 × 14-1/8" 443 × 104 × 359mm
Weight:		16.3lbs/7.4kg

All features and specifications are subject to change without notice.